



## ZIMMER® COONRAD/MORREY TOTAL ELBOW

Interchangeability,  
Anterior Flange,  
Clinical Success

Anterior flange motion  
control and escape  
allowing stability during  
internal rotation

Titanium Ti-6Al-4V  
Alloy for durable, light-  
weight construction

Proximal humeral flange permits  
insertion of bone graft anteriorly to  
enhance thickening of bone stock  
where maximum stress occurs,  
reducing posterior displacement  
and torsional forces and helping  
protect bone/cement/implant interface

Zimmer Certified Poly  
Bushings, with ultra-high  
molecular weight polyethylene,  
prevents metal-to-metal contact

Plasma spray coating provides  
enhanced cement fixation, implant  
intended to be used with bone  
cement for both immediate and  
long-term fixation

Quadrangular to match  
canal latro scope, to help  
minimize intra-articular  
rotation in the ulna

### CLINICAL SUCCESS

For the patient, the Zimmer Coonrad/Morrey Total Elbow provides the most advanced elbow replacement available. The Zimmer Coonrad/Morrey Total Elbow is designed to provide a long-term, functional, and comfortable joint. The Zimmer Coonrad/Morrey Total Elbow is designed to provide a long-term, functional, and comfortable joint. The Zimmer Coonrad/Morrey Total Elbow is designed to provide a long-term, functional, and comfortable joint.

### COMPLETE INTERCHANGEABILITY

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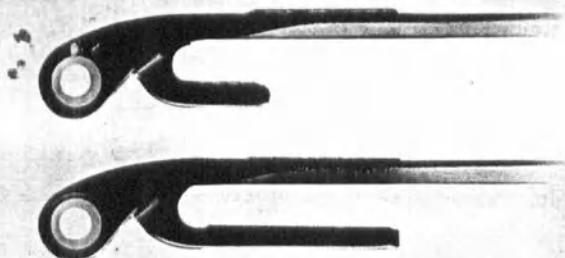
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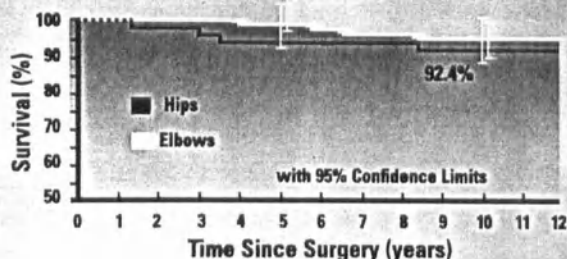
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## TRAUMA RECONSTRUCTION

The longer flange option addresses clinical situations involving distal/humeral bone loss without compromising elbow joint performance



## CLINICAL SUCCESS

In joint replacement surgery, total hip surgery offers a standard for clinical success. In comparison the Coonrad/Morrey Total Elbow has performed equally or better.<sup>2,3</sup> Backed by more than 19 years of clinical success,<sup>2,4</sup> the Coonrad/Morrey Total Elbow is indicated for primary and revision intervention, post-traumatic<sup>2</sup> and rheumatoid arthritis,<sup>3,6</sup> and trauma reconstruction.<sup>4,5</sup>

### IMPLANTS

#### Humeral Implants

| Prod. No.     | Description                                 |
|---------------|---------------------------------------------|
| 32-8105-25-04 | Humeral Component, 4", Small                |
| 32-8105-25-06 | Humeral Component, 6", Small                |
| 32-8105-25-08 | Humeral Component, 8", Small                |
| 32-8105-26-04 | Humeral Component, 4", Regular              |
| 32-8105-26-06 | Humeral Component, 6", Regular              |
| 32-8105-26-08 | Humeral Component, 8", Regular              |
| 32-8105-27-04 | Humeral Component, 4", Extra-Small          |
| 32-8105-27-06 | Humeral Component, 6", Extra-Small          |
| 32-8105-35-06 | Humeral Component, Long Flange, 6", Small   |
| 32-8105-35-08 | Humeral Component, Long Flange, 8", Small   |
| 32-8105-36-06 | Humeral Component, Long Flange, 6", Regular |
| 32-8105-36-08 | Humeral Component, Long Flange, 8", Regular |

#### Ulnar Implants

| Prod. No.     | Description                                     |
|---------------|-------------------------------------------------|
| 32-8105-53-01 | Ulna Component, Plasma, Small, Left             |
| 32-8105-53-02 | Ulna Component, Plasma, Small, Right            |
| 32-8105-63-01 | Ulna Component, Plasma, Regular, Left           |
| 32-8105-63-02 | Ulna Component, Plasma, Regular, Right          |
| 32-8105-73-01 | Ulna Component, Plasma Long, Small, Left        |
| 32-8105-73-02 | Ulna Component, Plasma Long, Small, Right       |
| 32-8105-83-01 | Ulna Component, Plasma Long, Regular, Left      |
| 32-8105-83-02 | Ulna Component, Plasma Long, Regular, Right     |
| 32-8105-93-01 | Ulna Component, Plasma Long, Extra-Small, Left  |
| 32-8105-93-02 | Ulna Component, Plasma Long, Extra-Small, Right |

#### Replacement Kits\* for Interchangeable System

| Prod. No.     | Description                                     |
|---------------|-------------------------------------------------|
| 32-8105-25-01 | Pin/Bushing Replacement Kit Small/Regular       |
| 32-8105-27-01 | Pin/Bushing Replacement Kit Extra-Small Humeral |

#### Revision Old/New Interchange Kits\*

| Prod. No.     | Description                               |
|---------------|-------------------------------------------|
| 32-8105-29-00 | Old Regular Humeral/New Ulna Revision Kit |
| 32-8105-30-00 | Old Regular Ulna/New Humeral Revision Kit |

#### Replacement Revision Kits\*—Non-Interchangeable

| Prod. No.      | Description                                  |
|----------------|----------------------------------------------|
| 32-8106-000-12 | Old Small Bushing Replacement/Revision Kit   |
| 32-8106-000-13 | Old Regular Bushing Replacement/Revision Kit |

\* Consult Revision/Replacement Matrix 97-8106-04 for proper kit.

### PROVISIONALS

#### Humeral Provisionals

| Prod. No.     | Description                       |
|---------------|-----------------------------------|
| 31-8105-25-04 | Humeral, 4", Small                |
| 31-8105-25-06 | Humeral, 6", Small                |
| 31-8105-25-08 | Humeral, 8", Small                |
| 31-8105-26-04 | Humeral, 4", Regular              |
| 31-8105-26-06 | Humeral, 6", Regular              |
| 31-8105-26-08 | Humeral, 8", Regular              |
| 31-8105-27-04 | Humeral, 4", Extra-Small          |
| 31-8105-27-06 | Humeral, 6", Extra-Small          |
| 31-8105-35-06 | Humeral, 6", Long Flange, Small   |
| 31-8105-35-08 | Humeral, 8", Long Flange, Small   |
| 31-8105-36-06 | Humeral, 6", Long Flange, Regular |
| 31-8105-36-08 | Humeral, 8", Long Flange, Regular |

#### Ulnar Provisionals

| Prod. No.     | Description                    |
|---------------|--------------------------------|
| 31-8105-53-01 | Ulna, Small, Left              |
| 31-8105-53-02 | Ulna, Small, Right             |
| 31-8105-63-01 | Ulna, Regular, Left            |
| 31-8105-63-02 | Ulna, Regular, Right           |
| 31-8105-73-01 | Ulna, Long, Small, Left        |
| 31-8105-73-02 | Ulna, Long, Small, Right       |
| 31-8105-83-01 | Ulna, Long, Regular, Left      |
| 31-8105-83-02 | Ulna, Long, Regular, Right     |
| 31-8105-93-01 | Ulna, Long, Extra-Small, Left  |
| 31-8105-93-02 | Ulna, Long, Extra-Small, Right |

### INSTRUMENTS

| Prod. No.     | Description                      |
|---------------|----------------------------------|
| 31-8106-27    | Humeral Guide, Extra-Small       |
| 31-8106-40    | Hinge Pin Removal Tool           |
| 31-8106-51    | Humeral Yolk Gauge               |
| 31-8106-52    | Elbow Extractor                  |
| 31-8106-53-01 | Ulnar Rasp, Small, Left          |
| 31-8106-53-02 | Ulnar Rasp, Small, Right         |
| 31-8106-63-01 | Ulnar Rasp, Regular, Left        |
| 31-8106-63-02 | Ulnar Rasp, Regular, Right       |
| 31-8106-65    | Humeral Rasp, Regular            |
| 31-8106-66    | Humeral Rasp, Small              |
| 31-8106-67    | Starter Ulnar Rasp, Small, Left  |
| 31-8106-68    | Starter Ulnar Rasp, Small, Right |
| 31-8106-69    | Pilot Ulnar Rasp                 |
| 31-8106-70    | Elbow Impactor                   |

|             |                                     |
|-------------|-------------------------------------|
| 31-8106-76  | Humeral Rasp, 4", Small             |
| 31-8106-77  | Humeral Rasp, 4", Regular           |
| 31-8106-78  | Humeral Starter Rasp                |
| 31-8106-79  | Humeral Starter Rasp, 4"            |
| 31-8106-80  | T-Handle                            |
| 31-8106-81  | Humeral Alignment Guide             |
| 31-8106-95  | Humeral Cutting Guide Small/Regular |
| 31-8106-167 | Starter Awl, 2mm diameter           |
| 31-8106-168 | Starter Awl, 3mm diameter           |
| 31-8106-169 | Starter Awl, 5mm diameter           |
| 6601-36     | Awl Reamer                          |
| 8106-90     | Elbow Instrument Case               |

### SETS

| Prod. No.      | Description                          |
|----------------|--------------------------------------|
| 31-8106-000-01 | Coonrad/Morrey Instrument Set & Case |
| 31-8106-000-02 | Long Ulnar Provisional Set           |
| 31-8106-000-03 | Long Flange Provisional Set          |
| 31-8106-000-04 | Extra-Small Humeral Instrument Set   |
| 31-8106-000-06 | Extra-Small Ulna Provisional Set     |
| 32-8105-000-00 | Standard Implant Set                 |
| 32-8105-000-02 | Long Ulnar Implant Set               |
| 32-8105-000-03 | Long Flange Humeral Implant Set      |
| 32-8105-000-04 | Extra-Small Humeral Implant Set      |
| 32-8105-000-05 | Bushing Replacement Kit              |
| 32-8105-000-06 | Extra-Small Ulna Implant Kit Set     |

1. Data on file with Data Monitor, New York, NY 10016-5802 U.S.A.
2. Morrey BF, Adams RA, Bryan RS. Total replacement for post-traumatic arthritis of the elbow. J Bone Joint Surg (Br). 1991;73-B(4):607-612.
3. Morrey BF, Adams RA. Semiconstrained arthroplasty for the treatment of rheumatoid arthritis of the elbow. J Bone Joint Surg. 1992;74-A(4):479-490.
4. Morrey BF, Adams RA. Semiconstrained elbow replacement for distal humeral nonunion. J Bone Joint Surg (Br). 1995;77-B:67-72.
5. O'Driscoll SW. Prosthetic elbow replacement for distal humeral fractures and nonunions. Op Tech in Orthop. 1994;4(1):54-57.
6. Gill DR, Morrey BF. The Coonrad/Morrey total elbow arthroplasty in patients who have rheumatoid arthritis. J Bone Joint Surg. 1998;80(9):1327-1335.

Contact your Zimmer representative, or visit us at [www.zimmer.com](http://www.zimmer.com).



### Humeral Bone Graft

Prepare a bone graft from the excised trochlea, or from the iliac crest or bone bank for revision surgery. The graft should measure about 2mm to 3mm in thickness and be about 1.5cm in length and 1cm in width. Place approximately one-half of the bone graft anterior to the anterior cortex of the distal humerus, and expose the other half through the resected trochlea. Insert the humeral component down the canal to a point that allows articulation of the device. At this position the bone graft is "captured" by the flange (Fig. 25).

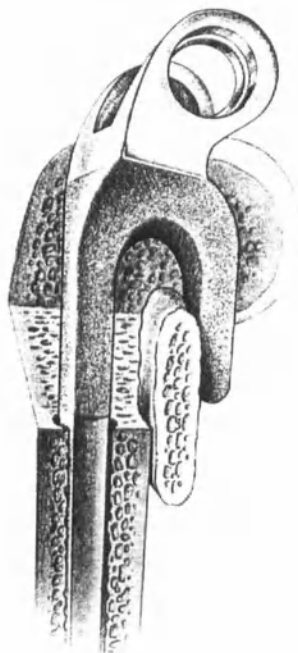


Fig. 25

### Assembly and Impaction

Articulate the ulnar and humeral components, and connect them by placing the hollow, outer axis pin across the two components and securing it with the solid internal axis pin (Fig. 26). Be sure that the two

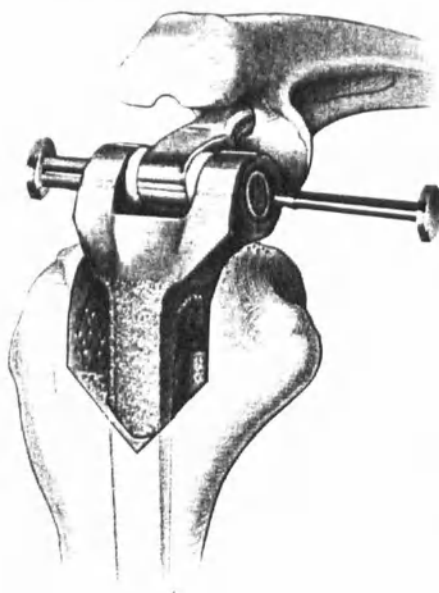


Fig. 26

pins are fully engaged. A click should be heard and felt when the two pins are connected. If not, soft tissue is likely trapped between the pin and the implant preventing complete engagement. After the prosthesis has been coupled, use the Humeral Impactor to impact the humeral component down the medullary canal (Fig. 27). Typically, the component should be inserted so that the axis of rotation of the prosthesis is at the level of the normal anatomic axis of rotation. This is approximately where the base of the flange is flush with the anterior bone of the coronoid fossa. Flex and extend the elbow to identify areas of impingement, and remove any impinging bone with a rongeur.

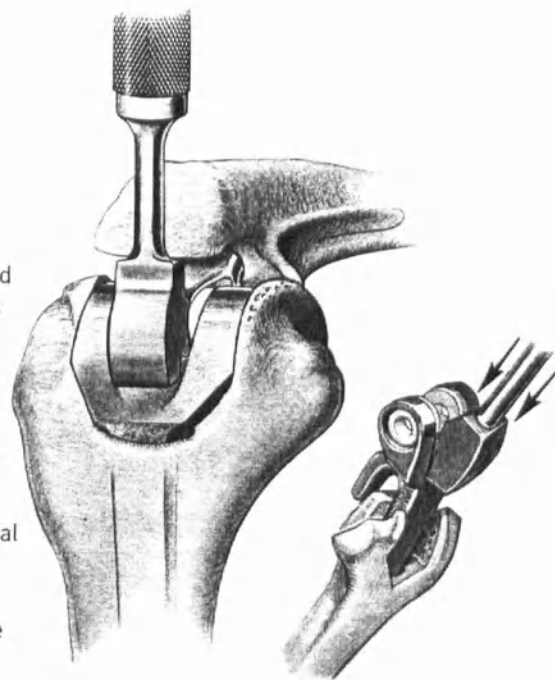


Fig. 27

## Closure

Deflate the tourniquet and obtain hemostasis. Insert a drain, if desired, and close the wound in layers. Return the triceps mechanism to its anatomic position and secure it with sutures placed through cruciate and transverse drill holes in the proximal ulna. Place a heavy #5 nonabsorbable suture in a crisscross fashion in the triceps, and a second suture in a transverse manner. Tie these sutures with the elbow flexed at 90 degrees (Fig. 28). To protect the ulnar nerve, place it in a subcutaneous pocket (Fig. 29). There is no need to repair the collateral ligaments. Use absorbable sutures to repair the remaining portion of the triceps mechanism. Then complete the closure in a routine fashion. Apply a compressive dressing with the elbow in full extension.

## Postoperative Management

Elevate the arm postoperatively for two to four days with the elbow above shoulder level. Remove the drains, if used, at approximately 24 to 36 hours, and the compressive dressing on the second day after surgery. Apply a light dressing and allow elbow flexion and extension as tolerated. Use a collar and cuff, and instruct the patient on activities of daily living. Typically, no formal physical therapy is required or indicated unless necessary for the shoulder or hand. Avoid strengthening exercises. The patient should be advised not to lift more than one pound during the first three postoperative months and not lift more than five pounds with the operated arm.

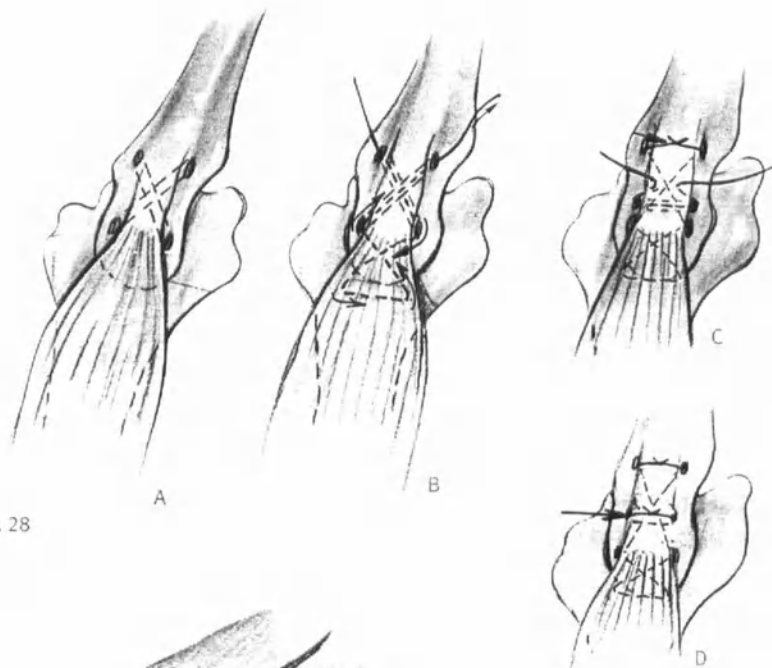


Fig. 28

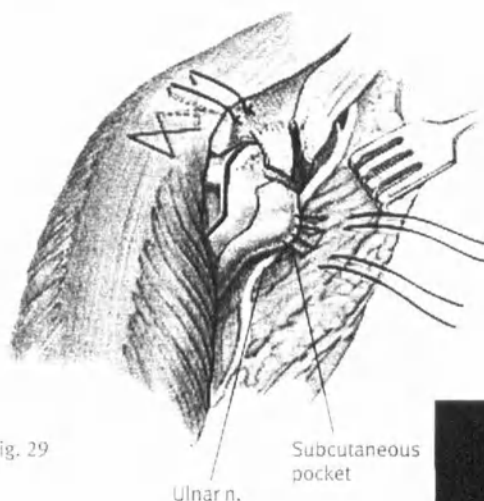
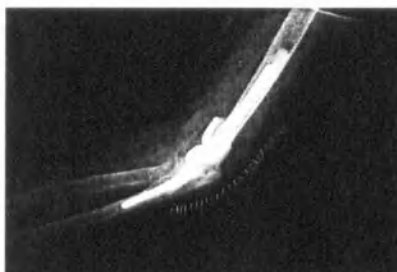


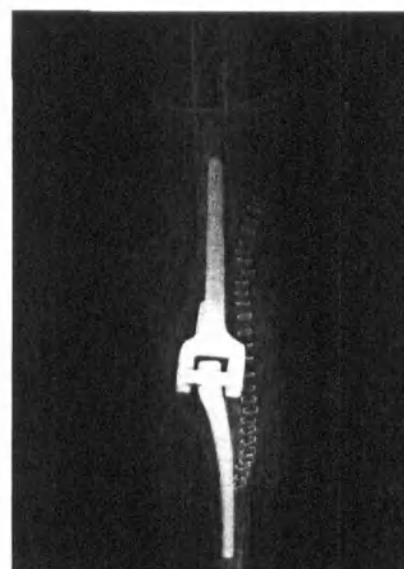
Fig. 29

Ulnar n.

Subcutaneous pocket



Lateral View



Anterior/Posterior View